

**WHAT IS CLAIMED IS:**

- 1    1.    A multi-channel radio operating with multiple security levels,  
2    comprising:
  - 3       more than one input/output, each input/output corresponding to a  
4       security level;
  - 5       a first common bus coupled to the more than one input/output;
  - 6       a first set of more than one processor coupled to the common bus,  
7       each of the first set of processors corresponding to a security level;
  - 8       a second set of more than one processors coupled to the first set of  
9       processors; and
  - 10      more than one transceiver, each transceiver being coupled to at least  
11      one of the processors of the first set of processors.
- 1    2.    The multi-channel radio operating with multiple security levels of claim  
2    1, further comprising:
  - 3       a second common bus coupled to the first set of processors and the  
4       second set of processors.
- 1    3.    The multi-channel radio operating with multiple security levels of claim  
2    2, wherein one of the first processors of the first set of processors encodes  
3    information received from one of the input/outputs.
- 1    4.    The multi-channel radio operating with multiple security levels of claim  
2    3, wherein the second common bus directs the encoded information so that it  
3    is received by the intended processor of the second set of processors and not  
4    received or understood by other of the processors of the second set of  
5    processors.
- 1    5.    The multi-channel radio operating with multiple security levels of claim  
2    4, wherein the first common bus is an Ethernet packet switching device.

1       6.     The multi-channel radio operating with multiple security levels of claim  
2     4, wherein the second common bus is a PCI bus.

1       7.     A method of transmitting data using a multi-channel radio system  
2     configured for use with different security levels, comprising:  
3              receiving an information packet;  
4              routing the information packet to a processor of a first set of  
5     processors, each of the first set of processors corresponding to a security  
6     level, the routing carried out over a first common bus;  
7              encoding the information packet;  
8              routing the information packet by a second common bus to one of a  
9     second set of processors; and  
10             transmitting the information packet from one of the second set of  
11     processors over the air.

1       8.     The method of claim 7, wherein the first set of processors are red  
2     processing devices.

1       9.     The method of claim 7, wherein the first common bus comprises an  
2     Ethernet packet switching device.

1       10.    The method of claim 7, wherein the second common bus comprises a  
2     PCI bus.

1       11.    The method of claim 7, wherein the second set of processors are black  
2     processing devices.

1       12.    A method of receiving data using a multi-channel radio system  
2     configured for use with different security levels, comprising:  
3              receiving an information packet from over the air;  
4              routing the information packet to a processor of a first set of  
5     processors;

6           routing the information packet over a first common bus to one of a  
7 second set of processors based on the security level of the information  
8 packet;  
9           decoding the information packet; and  
10          routing the information packet by a second common bus to one of a set  
11 of outputs, each output corresponding to a security level.

1     13.. The method of claim 12, wherein the first set of processors are black  
2 processing devices.

1     14. The method of claim 12, wherein the second common bus comprises  
2 an Ethernet packet switching device.

1     15. The method of claim 12, wherein the first common bus comprises a  
2 PCI bus.

1     16. The method of claim 12, wherein the second set of processors are red  
2 processing devices.

1     17. A multi-channel radio receiving information of different security levels,  
2 comprising:  
3           a first set of processors;  
4           a second set of processors, each of the second set of processors  
5 corresponding to a security level; and  
6           a common bus interface coupled between the first set of processors  
7 and the second set of processors, the interface configured to isolate  
8 processors of the second set of processors from one another based on the  
9 information security level.

1     18. The multi-channel radio of claim 17, wherein the second set of  
2 processors comprise red processing devices.

1    19.    The multi-channel radio of claim 17, wherein the common bus interface  
2    comprises a PCI bus.

1    20.    The multi-channel radio of Claim 17, wherein the first set of processors  
2    comprise black processing devices.